

Shamibrata Chatterjee

Research Professor, Department of Astronomy

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Research Interests

- Nanohertz Gravitational Waves and Pulsar Timing Arrays.
- The Radio Transient Sky; Fast Radio Bursts; Compact Objects: Neutron Stars.
- Precision Astrometry: Neutron Star Proper Motions and Parallaxes.

Education

2003 Ph.D. (Astronomy), Cornell University.

2000 M.S. (Astronomy), Cornell University.

1996 B.Tech. (Electrical Engineering), Indian Institute of Technology, Madras.

Professional Experience

- 2022 – Research Professor, Department of Astronomy
- 2020 – Principal Research Scientist
- 2015 – 2020 Senior Research Associate
Cornell Center for Astrophysics and Planetary Science.
- 2009 – 2014 Research Associate
Department of Astronomy and CCSR, Cornell University.
- 2008 – 2009 Research Scientist *and* Queen Elizabeth II Fellow
CSIRO Australia Telescope National Facility.
- 2006 – 2008 University Research Fellow
School of Physics, The University of Sydney, Australia.
- 2003 – 2006 Jansky Fellow
Harvard-Smithsonian Center for Astrophysics, Cambridge, MA *and*
National Radio Astronomy Observatory, Socorro, NM.
- 1999 – 2003 Graduate Research Assistant
Department of Astronomy, Cornell University, Ithaca, NY.

Selected Honors and Awards

- 2020 Breakthrough Prize in Fundamental Physics,
Event Horizon Telescope Collaboration (shared, 347 members).
- 2002 Cranson W. and Edna B. Shelley Award for Graduate Research in Astronomy,
Department of Astronomy, Cornell University.
- 2001 Eleanor Norton York Prize in Astronomy,
Department of Astronomy, Cornell University.
- 1996 Dr. Shankar Dayal Sharma, President of India Prize
for All Round Proficiency in Curricular and Extracurricular Activities.
- 1996 Indian Institute of Technology Certificate of Merit
for Excellence in Cultural Activities and Organizational Abilities.
- 1996 Motorola Prize (Certificate of Academic Distinction),
Indian Institute of Technology, Madras.

Selected Professional Activities

- Chair, NANOGrav Collaboration Pulsar Search Working Group, 2019—
- Co-Chair, NANOGrav Collaboration Noise Budget Working Group, 2015 – 2019.
- Co-Chair, VLA Sky Survey Science Group, 2015 – 2022.
- Founder and co-editor, *Fast Radio Bursts Community Newsletter*, 2019—
- Scientific Advisory Council, Next-Generation Very Large Array, 2016 – 2021.
- Meeting organizing committee, *Fast Radio Bursts 2021*.
- NRAO Users Committee, 2013 – 2017.
- NASA peer review, *Swift* cycle 12, *Fermi* cycle 8, *Chandra* cycles 6, 14, LISA cycle 1.
- NSF external review, NRAO-ALMA Program Plan Review, 2012.
- Science Council, Murchison Widefield Array project, 2008 – 2009.
- Proposal review: NRAO VLA, VLBA, GBT, 2006 – 2008; Arecibo Observatory, 2018 – 2020.
- Guest Editor, “Young Neutron Stars and Supernova Remnants”, *Advances in Space Research*, 2005.
- Peer review for *Nature*, *ApJ*, *ApJL*, *MNRAS*, *A&A*; ongoing.

Selected Funded Grant Proposals

- Senior Personnel, “The North American Nanohertz Observatory for Gravitational Waves”
2021, NSF Physics Frontiers Center and NSF Mid-Scale Innovations Program, \$17M.
2014, NSF Physics Frontiers Center and NSF Mid-Scale Innovations Program, \$16M.
- Co-I, “Interstellar Turbulence Near the Heliospheric Boundary”
2019, NASA Outer Heliosphere Guest Investigator Program, \$363,000.
- PI, “Radio Bursts and Gravity from Parsecs to Gigaparsecs”
2017, NSF Astronomy and Astrophysics Research, \$586,000.
- PI, “Solving the Enigma of Fast Radio Burst 121102”
2017, *Hubble Space Telescope* General Observer Program, \$22,000.
- PI, “A NANOGrav Study of Gravitational Wave Astronomy with the ngVLA”
2016, National Radio Astronomy Observatory, \$25,000.
- PI, “Coordinated X-Ray and Radio Observations of the Repeating Fast Radio Burst 121102”
2016, *Chandra* General Observer Program subaward, \$12,000.
- PI, “Collaborative Research: Booming or Beaming? Sorting out the Dynamic Radio Universe”
2009, NSF Astronomy and Astrophysics Research, \$269,000.
- PI, “Snap, Crackle, Pop: Opening the Window on the Variable Radio Universe”
2008, Australian Research Council Discovery Project, AU\$ 876,000.

Teaching Experience

2022	Astronomy 7620, “ISM, Multimessenger Astronomy” (co-taught); Cornell University.
2020 – 2023	Microbiology 1200, “Genesis” (co-taught); Cornell University.
2018, 2019	Astronomy 1199, “Are We Alone? Search for Life in the Universe”; Cornell University.
2017, 2018	Astronomy 2201, “History of the Universe”; Cornell University.
2014 – 2018	Astronomy 2299, “Search for Life in the Universe” (co-taught); Cornell University.
2008	Physics 1500, “Introduction to Astronomy”; The University of Sydney.
2006 – 2007	Physics 1001 and 1003, “Physics 1”; The University of Sydney.

Shamibrata Chatterjee: Selected High-Impact Publications

Current H-Index: 81

(At least 81 refereed publications with 81 or more citations through March 2024.)

1. The NANOGrav collaboration, “The NANOGrav 15 yr Data Set: Evidence for a Gravitational-wave Background”, *ApJL*, **951**, L8, 2023 ⇒ 544 citations.
2. Niu, C.-H., Aggarwal, K., Li, D., Zhang, X., **Chatterjee, S.**, Tsai, C. -W., et al. (35 authors), “A repeating fast radio burst in a dense environment with a compact persistent radio source”, *Nature*, **606**, 873, 2022 ⇒ 150 citations.
3. Li, D., Wang, P., Zhu, W. W., Zhang, B., Zhang, X. X., Duan, R., Zhang, Y. K., Feng, Y., Tang, N. Y., **Chatterjee, S.**, Cordes, J. M., et al. (31 authors), “A bimodal burst energy distribution of a repeating fast radio burst source”, *Nature*, **598**, 267, 2021 ⇒ 153 citations.
4. Ocker, S. K., Cordes, J. M., **Chatterjee, S.**, Gurnett, D. A., Kurth, W. S., Spangler, S. R., “Persistent plasma waves in interstellar space detected by Voyager 1”, *Nature Astronomy*, **5**, 761, 2021.
5. Cordes, J. M. and **Chatterjee, S.**, “Fast Radio Bursts: An Extragalactic Enigma”, *Annual Review of Astronomy and Astrophysics*, **57**, 417, 2019 ⇒ Invited review of the field; 375 cites.
6. Michilli, D., Seymour, A., Hessels, J. W. T., Spitler, L. G., Gajjar, V., Archibald, A. M., Bower, G. C., **Chatterjee, S.**, Cordes, J. M., et al. (34 authors), “An Extreme Magneto-Ionic Environment Associated with the Fast Radio Burst Source FRB 121102”, *Nature*, **553**, 182, 2018. ⇒ 373 cites.
7. Tendulkar, S. P., Bassa, C. G., Cordes, J. M., Bower, G. C., Law, C. J., **Chatterjee, S.**, et al. (24 authors), “The Host Galaxy and Redshift of the Repeating Fast Radio Burst FRB 121102”, *ApJL*, **834**, L7, 2017. ⇒ The first FRB host galaxy redshift; 547 cites.
8. **Chatterjee, S.**, Law, C. J., Wharton, R. S., et al. (25 authors), “A Direct Localization of a Fast Radio Burst and its Host”, *Nature*, **541**, 58, 2017. ⇒ The first FRB localization; 653 cites.
9. Spitler, L. G., Scholz, P., Hessels, J. W. T., Bogdanov, S., Brazier, A., Camilo, F., **Chatterjee, S.**, Cordes, J. M., et al. (24 authors), “A Repeating Fast Radio Burst”, *Nature*, **531**, 202, 2016. ⇒ At least some FRBs repeat; 716 cites.
10. Ransom, S. M. et al. (21 authors, including **Chatterjee, S.**), “A Millisecond Pulsar in a Stellar Triple System” *Nature*, **505**, 520, 2014. ⇒ A NS–WD–WD testbed for general relativity; 207 cites.
11. **Chatterjee, S.**, Brisken, W. F., Vlemmings, W. H. T., Goss, W. M., Lazio, T. J. W., Cordes, J. M., Thorsett, S. E., Fomalont, E. B., Lyne, A. G., & Kramer, M., “Precision Astrometry with the VLBA: Parallaxes and Proper Motions for 14 Pulsars”, *ApJ*, **698**, 250–265, 2009
⇒ Results from a large astrometry program with the Very Long Baseline Array; 151 cites.
12. Champion, D. J. et al. (31 authors, including **Chatterjee, S.**), “An Eccentric Binary Millisecond Pulsar in the Galactic Plane”, *Science*, **320**, 1309, 2008.
⇒ An unusual system discovered by the PALFA survey at Arecibo; 170 cites.
13. **Chatterjee, S.**, Vlemmings, W. H. T., Brisken, W. F., Lazio, T. J. W., Cordes, J. M., Goss, W. M., Thorsett, S. E., Fomalont, E. B., Lyne, A. G., & Kramer, M., “Getting its Kicks: A VLBA Parallax for the Hyperfast Pulsar B1508+55”, *ApJL*, **630**, L61, 2005.
⇒ A neutron star velocity in excess of 1000 km/sec challenges theoretical models; 142 cites.

Shamibrata Chatterjee: List of Publications

Current H-Index: 81

(At least 81 refereed publications with 81 or more citations through March 2024.)

Refereed Publications¹

229. Event Horizon Telescope Collaboration (286 authors, including **Chatterjee, S.**), “First Sagittarius A* Event Horizon Telescope Results. VIII. Physical Interpretation of the Polarized Ring”, *ApJ Lett.*, **964**, L26, 2024.
228. Event Horizon Telescope Collaboration (285 authors, including **Chatterjee, S.**), “First Sagittarius A* Event Horizon Telescope Results. VII. Polarization of the Ring”, *ApJ Lett.*, **964**, L25, 2024.
227. * Jennings, R. J., Cordes, J. M., **Chatterjee, S.** et al., “An Unusual Pulse Shape Change Event in PSR J1713+0747 Observed with the Green Bank Telescope and CHIME”, *ApJ*, **964**, 179, 2024.
226. Agazie, G., et al. (NANOGrav collaboration, 89 authors, including **Chatterjee, S.**), “The NANOGrav 15 yr Data Set: Search for Transverse Polarization Modes in the Gravitational-wave Background”, *ApJ Lett.*, **964**, L14, 2024.
225. Agazie, G., et al. (NANOGrav collaboration, 91 authors, including **Chatterjee, S.**), “The NANOGrav 12.5 yr Data Set: A Computationally Efficient Eccentric Binary Search Pipeline and Constraints on an Eccentric Supermassive Binary Candidate in 3C 66B”, *ApJ*, **963**, 144, 2024.
224. Agazie, G., et al., “The NANOGrav 12.5 yr Data Set: Search for Gravitational Wave Memory”, *ApJ*, **963**, 61, 2024.
223. Paraschos, G. F., et al. (EHT collaboration, 283 authors, including **Chatterjee, S.**), “Ordered magnetic fields around the 3C 84 central black hole”, *A&A.*, **682**, L3, 2024.
222. * Ocker, S. K., Cordes, J. M., **Chatterjee, S.**, Stinebring, D. R., Dolch, T., Giannakopoulos, C., Pelgrims, V., McKee, J. W., Reardon, D. J., “Pulsar scintillation through thick and thin: bow shocks, bubbles, and the broader interstellar medium”, *MNRAS*, **527**, 7568, 2024.
221. Event Horizon Telescope Collaboration (309 authors, including **Chatterjee, S.**), “The persistent shadow of the supermassive black hole of M 87. I. Observations, calibration, imaging, and analysis”, *A&A.*, **681**, A79, 2024.
220. Faber, J. T., et al. (26 authors, including **Chatterjee, S.**), “Morphologies of Bright Complex Fast Radio Bursts with CHIME/FRB Voltage Data”, *arXiv e-prints*, arXiv:2312.14133, 2023.
219. Zhang, X., Yu, W., Law, C., Li, D., **Chatterjee, S.**, Demorest, P., Yan, Z., Niu, C., Aggarwal, K., Anna-Thomas, R., Burke-Spolaor, S., Connor, L., Tsai, C.-W., Zhu, W., Luo, G., “Temporal and Spectral Properties of the Persistent Radio Source Associated with FRB 20190520B with the VLA”, *ApJ*, **959**, 89, 2023.
218. Torne, P., et al. (EHT collaboration, 285 authors, including **Chatterjee, S.**), “A Search for Pulsars around Sgr A* in the First Event Horizon Telescope Data Set”, *ApJ*, **959**, 14, 2023.
217. Becsy, B., et al. (NANOGrav collaboration, 96 authors, including **Chatterjee, S.**), “How to Detect an Astrophysical Nanohertz Gravitational Wave Background”, *ApJ*, **959**, 9, 2023.
216. Roelofs, F., et al. (EHT collaboration, 282 authors, including **Chatterjee, S.**), “Polarimetric Geometric Modeling for mm-VLBI Observations of Black Holes”, *ApJ Lett.*, **957**, L21, 2023.

¹Papers marked with * indicate student first-authors whose work I co-supervised

215. Event Horizon Telescope Collaboration (284 authors, including **Chatterjee, S.**), “First M87 Event Horizon Telescope Results. IX. Detection of Near-horizon Circular Polarization”, *ApJ Lett.*, **957**, L20, 2023.
214. Agazie, G., et al. (NANOGrav collaboration, 93 authors, including **Chatterjee, S.**), “The NANOGrav 15 yr Data Set: Search for Anisotropy in the Gravitational-wave Background”, *ApJ Lett.*, **956**, L3, 2023.
213. Agazie, G., et al. (NANOGrav collaboration, 115 authors, including **Chatterjee, S.**), “The NANOGrav 15 yr Data Set: Constraints on Supermassive Black Hole Binaries from the Gravitational-wave Background”, *ApJ Lett.*, **952**, L37, 2023.
212. Agazie, G., et al. (NANOGrav collaboration, 99 authors, including **Chatterjee, S.**), “The NANOGrav 15 yr Data Set: Bayesian Limits on Gravitational Waves from Individual Supermassive Black Hole Binaries”, *ApJ Lett.*, **951**, L50, 2023.
211. Arzoumanian, Z., et al. (NANOGrav collaboration, 79 authors, including **Chatterjee, S.**), “The NANOGrav 12.5 yr Data Set: Bayesian Limits on Gravitational Waves from Individual Supermassive Black Hole Binaries”, *ApJ Lett.*, **951**, L28, 2023.
210. Afzal, A., et al. (NANOGrav collaboration, 124 authors, including **Chatterjee, S.**), “The NANOGrav 15 yr Data Set: Search for Signals from New Physics”, *ApJ Lett.*, **951**, L11, 2023.
209. Agazie, G., et al. (NANOGrav collaboration, 92 authors, including **Chatterjee, S.**), “The NANOGrav 15 yr Data Set: Detector Characterization and Noise Budget”, *ApJ Lett.*, **951**, L10, 2023.
208. Agazie, G., et al. (NANOGrav collaboration, 101 authors, including **Chatterjee, S.**), “The NANOGrav 15 yr Data Set: Observations and Timing of 68 Millisecond Pulsars”, *ApJ Lett.*, **951**, L9, 2023.
207. Agazie, G., et al. (NANOGrav collaboration, 115 authors, including **Chatterjee, S.**), “The NANOGrav 15 yr Data Set: Evidence for a Gravitational-wave Background”, *ApJ Lett.*, **951**, L8, 2023.
206. Falxa, M., et al. (IPTA Collaboration, 128 authors, including **Chatterjee, S.**), “Searching for continuous Gravitational Waves in the second data release of the International Pulsar Timing Array”, *MNRAS*, **521**, 5077, 2023.
205. Anna-Thomas, R., et al. (30 authors, including **Chatterjee, S.**), “Magnetic field reversal in the turbulent environment around a repeating fast radio burst”, *Science*, **380**, 599, 2023.
204. The CHIME/FRB Collaboration (58 authors, including **Chatterjee, S.**), “CHIME/FRB Discovery of 25 Repeating Fast Radio Burst Sources”, *ApJ*, **947**, 83, 2023.
203. Ding, H., Deller, A. T., Stappers, B. W., Lazio, T. J. W., Kaplan, D., **Chatterjee, S.**, Brisken, W., Cordes, J., Freire, P. C. C., Fonseca, E., Stairs, I., Guillemot, L., Lyne, A., Cognard, I., Reardon, D. J., Theureau, G., “The MSPSRII catalogue: VLBA astrometry of 18 millisecond pulsars”, *MNRAS*, **519**, 4982, 2023.
202. * Ocker, S. K., Cordes, J. M., **Chatterjee, S.**, Li, D., Niu, C.-H., McKee, J. W., Law, C. J., Anna-Thomas, R., “Scattering variability detected from the circumsource medium of FRB 20190520B”, *MNRAS*, **519**, 821, 2023.
201. Jorstad, S., et al. (EHT Collaboration, 270 authors, including **Chatterjee, S.**), “The Event Horizon Telescope Image of the Quasar NRAO 530”, *ApJ*, **943**, 170, 2023.

200. The CHIME/FRB Collaboration (61 authors, including **Chatterjee, S.**), “Sub-second periodicity in a fast radio burst”, *Nature*, **607**, 256, 2022.
199. Issaoun, S., et al. (EHT Collaboration, 270 authors, including **Chatterjee, S.**), “Resolving the Inner Parsec of the Blazar J1924-2914 with the Event Horizon Telescope”, *ApJ*, **934**, 145, 2022.
198. * Ocker, S. K., Cordes, J. M., **Chatterjee, S.**, Gorsuch, M. R., “Radio Scattering Horizons for Galactic and Extragalactic Transients”, *ApJ*, **934**, 71, 2022.
197. * Suresh, A., Cordes, J. M., **Chatterjee, S.**, Gajjar, V., Perez, K. I., Siemion, A. P. V., Lebofsky, M., MacMahon, D. H. E., Ng, C., “4-8 GHz Fourier-domain Searches for Galactic Center Pulsars”, *ApJ*, **933**, 121, 2022.
196. Niu, C.-H., Aggarwal, K., Li, D., Zhang, X., **Chatterjee, S.**, et al., “A repeating fast radio burst associated with a persistent radio source”, *Nature*, **606**, 873, 2022.
195. Cordes, J. M., Ocker, S. K., **Chatterjee, S.**, “Redshift Estimation and Constraints on Intergalactic and Interstellar Media from Dispersion and Scattering of Fast Radio Bursts”, *ApJ*, **931**, 88, 2022.
194. * Ocker, S. K., Cordes, J. M., **Chatterjee, S.**, Niu, C.-H., Li, D., McKee, J. W., Law, C. J., Tsai, C.-W., Anna-Thomas, R., Yao, J.-M., Cruces, M., “The Large Dispersion and Scattering of FRB 20190520B Are Dominated by the Host Galaxy”, *ApJ*, **931**, 87, 2022.
193. Broderick, A. E., et al. (EHT Collaboration, 267 authors, including **Chatterjee, S.**), “Characterizing and Mitigating Intraday Variability: Reconstructing Source Structure in Accreting Black Holes with mm-VLBI”, *ApJ Lett.*, **930**, L21, 2022.
192. Georgiev, B., et al. (EHT Collaboration, 269 authors, including **Chatterjee, S.**), “A Universal Power-law Prescription for Variability from Synthetic Images of Black Hole Accretion Flows”, *ApJ Lett.*, **930**, L20, 2022.
191. Wielgus, M., et al. (EHT Collaboration, 267 authors, including **Chatterjee, S.**), “Millimeter Light Curves of Sagittarius A* Observed during the 2017 Event Horizon Telescope Campaign”, *ApJ Lett.*, **930**, L19, 2022.
190. Farah, J., et al. (EHT Collaboration, 235 authors, including **Chatterjee, S.**), “Selective Dynamical Imaging of Interferometric Data”, *ApJ Lett.*, **930**, L18, 2022.
189. Event Horizon Telescope Collaboration (270 authors, including **Chatterjee, S.**), “First Sagittarius A* Event Horizon Telescope Results. VI. Testing the Black Hole Metric”, *ApJ Lett.*, **930**, L17, 2022.
188. Event Horizon Telescope Collaboration (274 authors, including **Chatterjee, S.**), “First Sagittarius A* Event Horizon Telescope Results. V. Testing Astrophysical Models of the Galactic Center Black Hole”, *ApJ Lett.*, **930**, L16, 2022.
187. Event Horizon Telescope Collaboration (269 authors, including **Chatterjee, S.**), “First Sagittarius A* Event Horizon Telescope Results. IV. Variability, Morphology, and Black Hole Mass”, *ApJ Lett.*, **930**, L15, 2022.
186. Event Horizon Telescope Collaboration (270 authors, including **Chatterjee, S.**), “First Sagittarius A* Event Horizon Telescope Results. III. Imaging of the Galactic Center Supermassive Black Hole”, *ApJ Lett.*, **930**, L14, 2022.
185. Event Horizon Telescope Collaboration (336 authors, including **Chatterjee, S.**), “First Sagittarius A* Event Horizon Telescope Results. II. EHT and Multiwavelength Observations, Data Processing, and Calibration”, *ApJ Lett.*, **930**, L13, 2022.

184. Event Horizon Telescope Collaboration (388 authors, including **Chatterjee, S.**), “First Sagittarius A* Event Horizon Telescope Results. I. The Shadow of the Supermassive Black Hole in the Center of the Milky Way”, *ApJ Lett.*, **930**, L12, 2022.
183. Antoniadis, J., et al. (126 authors, including **Chatterjee, S.**), “The International Pulsar Timing Array second data release: Search for an isotropic gravitational wave background”, *MNRAS*, **510**, 4873, 2022.
182. Cordes, J. M., Wasserman, I., **Chatterjee, S.**, Batra, G., “Empirical Assessment of Aperiodic and Periodic Radio Bursts from Young Precessing Magnetars”, *ApJ*, **929**, 97, 2022.
181. Wasserman, I., Cordes, J. M., **Chatterjee, S.**, Batra, G., “Nonaxisymmetric Precession of Magnetars and Fast Radio Bursts”, *ApJ*, **928**, 53, 2022.
180. Espinoza, C. M., Vidal-Navarro, M., Ho, W. C. G., Deller, A., **Chatterjee, S.**, “VLA proper motion constraints on the origin, age, and potential magnetar future of PSR J1734–3333”, *A&A*, **659**, A41, 2022.
179. Cassanelli, T., et al. (41 authors, including **Chatterjee, S.**), “Localizing FRBs through VLBI with the Algonquin Radio Observatory 10 m Telescope”, *AJ*, **163**, 65, 2022.
178. Satapathy, K., et al. (EHT Collaboration, 238 authors, including **Chatterjee, S.**), “The Variability of the Black Hole Image in M87 at the Dynamical Timescale”, *ApJ*, **925**, 13, 2022.
177. Parent, E., et al. (34 authors, including **Chatterjee, S.**), “Study of 72 Pulsars Discovered in the PALFA Survey: Timing Analysis, Glitch Activity, Emission Variability, and a Pulsar in an Eccentric Binary”, *ApJ*, **924**, 135, 2022.
176. Arzoumanian, Z., et al. (66 authors, including **Chatterjee, S.**), “Searching for Gravitational Waves from Cosmological Phase Transitions with the NANOGrav 12.5-Year Dataset”, *Phys. Rev. Lett.*, **127**, 251302, 2021.
175. Arzoumanian, Z., et al. (72 authors, including **Chatterjee, S.**), “The NANOGrav 12.5-year Data Set: Search for Non-Einsteinian Polarization Modes in the Gravitational-wave Background”, *ApJ Lett.*, **923**, L22, 2021.
174. * Ocker, S. K., Cordes, J. M., **Chatterjee, S.**, Dolch, T., “An In Situ Study of Turbulence near Stellar Bow Shocks”, *ApJ*, **922**, 233, 2021.
173. * Suresh, A., Cordes, J. M., **Chatterjee, S.**, Gajjar, V., Perez, K. I., Siemion, A. P. V., Price, D. C., “4–8 GHz Spectrot temporal Emission from the Galactic Center Magnetar PSR J1745–2900”, *ApJ*, **921**, 101, 2021.
172. Murphy, T., et al. (237 authors, including **Chatterjee, S.**), “The ASKAP Variables and Slow Transients (VAST) Pilot Survey”, *Pub. Ast. Soc. Aus.*, **38**, e054, 2021.
171. * Ocker, S. K., Cordes, J. M., **Chatterjee, S.**, Dolch, T., “An In Situ Study of Turbulence near Stellar Bow Shocks”, *ApJ*, **922**, 233, 2021.
170. * Suresh, A., Cordes, J. M., **Chatterjee, S.**, Gajjar, V., Perez, K. I., Siemion, A. P. V., Price, D. C., “4–8 GHz Spectrot temporal Emission from the Galactic Center Magnetar PSR J1745–2900”, *ApJ*, **921**, 101, 2021.
169. Li, D., Wang, P., Zhu, W. W., Zhang, B., Zhang, X. X., Duan, R., Zhang, Y. K., Feng, Y., Tang, N. Y., **Chatterjee, S.**, Cordes, J. M., et al. (31 authors), “A bimodal burst energy distribution of a repeating fast radio burst source”, *Nature*, **598**, 267, 2021.

168. * Suresh, A., **Chatterjee, S.**, Cordes, J. M., Crawford, F., “An Arecibo Search for Fast Radio Transients from M87”, *ApJ*, **920**, 16, 2021.
167. Turner, J. E., et al. (36 authors, including **Chatterjee, S.**), “The NANOGrav 12.5 Year Data Set: Monitoring Interstellar Scattering Delays”, *ApJ*, **917**, 10, 2021.
166. Janssen, M., et al. (EHT Collaboration, 268 authors, including **Chatterjee, S.**), “Event Horizon Telescope observations of the jet launching and collimation in Centaurus A”, *Nature Astronomy*, **5**, 1017, 2021.
165. Gajjar, V., et al. (26 authors, including **Chatterjee, S.**), “The Breakthrough Listen Search For Intelligent Life Near the Galactic Center. I.”, *AJ*, **162**, 33, 2021.
164. Arzoumanian, Z., et al. (NANOGrav Collaboration; 57 authors, including **Chatterjee, S.**), “The NANOGrav 11yr Data Set: Limits on Supermassive Black Hole Binaries in Galaxies within 500 Mpc”, *ApJ*, **914**, 121, 2021.
163. Liu, K., Desvignes, G, Eatough, R. P., Karuppusamy, R., Kramer, M., Torne, P., Wharton, R., **Chatterjee, S.**, Cordes, J. M., et al. (27 authors), “An 86 GHz Search for Pulsars in the Galactic Center with the Atacama Large Millimeter / submillimeter Array”, *ApJ*, **914**, 30, 2021.
162. * Ocker, S. K., Cordes, J. M., **Chatterjee, S.**, Gurnett, D. A., Kurth, W. S., Spangler, S. R., “Persistent plasma waves in interstellar space detected by Voyager 1”, *Nature Astronomy*, **5**, 761, 2021.
161. Kocherlakota, P., et al. (EHT Collaboration, 237 authors, including **Chatterjee, S.**), “Constraints on black-hole charges with the 2017 EHT observations of M87*”, *Phys. Rev. D*, **103**, 104047, 2021.
160. Narayan, R., et al. (EHT Collaboration, 240 authors, including **Chatterjee, S.**), “The Polarized Image of a Synchrotron-emitting Ring of Gas Orbiting a Black Hole”, *ApJ*, **912**, 35, 2021.
159. Eftekhari, T., et al. (21 authors, including **Chatterjee, S.**), “Late-Time Radio and Millimeter Observations of Superluminous Supernovae and Long Gamma Ray Bursts: Implications for Obscured Star Formation, Central Engines, and Fast Radio Bursts”, *ApJ*, **912**, 21, 2021.
158. Pol, N. S., et al. (52 authors, including **Chatterjee, S.**), “Astrophysics Milestones For Pulsar Timing Array Gravitational Wave Detection”, *ApJ Lett.*, **911**, L34, 2021.
157. EHT MWL Science Working Group (745 authors, including **Chatterjee, S.**), “Broadband Multi-wavelength Properties of M87 during the 2017 Event Horizon Telescope Campaign”, *ApJ Lett.*, **911**, L11, 2021.
156. * Ocker, S., Cordes, J. M., **Chatterjee, S.**, “Constraining Galaxy Haloes from the Dispersion and Scattering of Fast Radio Bursts and Pulsars”, *ApJ*, **911**, 102, 2021.
155. Goddi, C., et al. (EHT Collaboration, 250 authors, including **Chatterjee, S.**), “Polarimetric Properties of Event Horizon Telescope Targets from ALMA”, *ApJ Lett.*, **910**, L14, 2021.
154. Event Horizon Telescope Collaboration (240 authors, including **Chatterjee, S.**), “First M87 Event Horizon Telescope Results. VIII. Magnetic Field Structure near The Event Horizon”, *ApJ Lett.*, **910**, L13, 2021.
153. Event Horizon Telescope Collaboration (239 authors, including **Chatterjee, S.**), “First M87 Event Horizon Telescope Results. VII. Polarization of the Ring”, *ApJ Lett.*, **910**, L12, 2021.
152. **Chatterjee, S.**, “Fast radio bursts”, *Astronomy and Geophysics*, **62**, 1.29, 2021.

151. Murphy, T., et al. (55 authors, including **Chatterjee, S.**), “The ASKAP Variables and Slow Transients (VAST) Pilot Survey”, *PASA*, **38**, e054, 2021.
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2. Fomalont, E. B., Goss, W. M., Beasley, A. J., & **Chatterjee, S.**, “Sub-Milliarcsecond Precision of Pulsar Motions: Using In-Beam Calibrators with the VLBA”, *AJ*, **117**, 3025, 1999.
1. **Chatterjee, S.**, Bhat, K. N., & Rao, P. R. S., “The Effect of a Cap Layer on the Diffusion of Zinc from Doped Silica Films in Gallium Arsenide”, *Solid State Electronics*, **41**, 496, 1997.

Selected Scientific Memos and White Papers

- Ocker, S. K., Cordes, J., **Chatterjee, S.**, Hazboun, J., Dolch, T., Stinebring, D., Madison, D., White, S., Taylor, G., Lewandowska, N., Lam, M., “Heliosphere Meets Interstellar Medium, in a Galactic Context”, *Heliophysics 2024 Decadal Survey White Paper*, arXiv:2208.11804, 2022.
- Ransom, S., Brazier, A., **Chatterjee, S.**, Cohen, T., Cordes, J. M., DeCesar, M. E., et al., “The NANOGrav Program for Gravitational Waves and Fundamental Physics”, *Astro 2020 White Paper*, BAAS, **51**, 195, 2019.
- Ravi, V., Battaglia, N., Burke-Spolaor, S., **Chatterjee, S.**, Cordes, J., Hallinan, G., et al., “Fast Radio Burst Tomography of the Unseen Universe”, *Astro 2020 White Paper*, BAAS, **51**, 420, 2019.
- Bower, G., **Chatterjee, S.**, Cordes, J., Demorest, P., Deneva, J. S., Dexter, J., et al., “Fundamental Physics with Galactic Center Pulsars”, *Astro 2020 White Paper*, BAAS, **51**, 438, 2019.
- Stinebring, D. R., **Chatterjee, S.**, Clark, S. E., Cordes, J. M., Dolch, T., Heiles, C., et al., “Twelve Decades: Probing the Interstellar Medium from kiloparsec to sub-AU scales”, *Astro 2020 White Paper*, BAAS, **51**, 492, 2019.
- Roshi, A., et al. (45 authors, including **Chatterjee, S.**), “Arecibo Observatory in the Next Decade”, *Astro 2020 Facilities White Paper*, BAAS, **51**, 244, 2019.
- O’Neil, K., Lockman, F. J., D’Ammando, F., Armentrout, W., **Chatterjee, S.**, Cordes, J. M., et al., “The Case for a Fully Funded Green Bank Telescope”, *Astro 2020 Facilities White Paper*, BAAS, **51**, 70, 2019.
- Bower G. C., **Chatterjee S.**, Cordes J., et al., “Galactic Center Pulsars with the ngVLA”, *Science with a Next Generation Very Large Array*, **517**, 793, 2018.
- **Chatterjee S.**, NANOGrav Collaboration, “Science with Pulsar Timing Arrays and the ngVLA”, *Science with a Next Generation Very Large Array*, **517**, 751, 2018.
- Murphy E., Bolatto, A., **Chatterjee, S.**, et al., “The ngVLA Science Case and Associated Science Requirements”, *Science with a Next Generation Very Large Array*, **517**, 3, 2018.
- **Chatterjee, S.**, Cordes, J. M., Wharton, R. S., Kaplan, D. L., Lazio, T. J. W., Crawford, F., Ransom, S., “Discovering Exotic Pulsars and Transients with VLASS and Time Domain Surveys”, *VLA Sky Survey White Paper²*, NRAO, 2014.
- Walker, R. C. & **Chatterjee, S.**, “Ionospheric Corrections using GPS-based Models”, VLBA Scientific Memo³ 23, NRAO, 1999.
- **Chatterjee, S.**, “Recipes for low frequency VLBI Phase-Referencing and GPS Ionospheric Correction”, VLBA Scientific Memo 22, NRAO, 1999.
- **Chatterjee, S.**, “How Accurate is Phase Referencing at L-band? An Assessment”, VLBA Scientific Memo 18, NRAO, 1999.

²<https://science.nrao.edu/science/surveys/vlass/vlass-white-papers>

³<http://www.aoc.nrao.edu/vlba/html/MEMOS/scimemos.html>

Selected Colloquia and Talks

- 2024 Invited talk, Cosmic Microwave Background S4 Collaboration.
2023 Astronomy Colloquium, Massachusetts Institute of Technology.
2022 Astronomy Colloquium, NOIRLab / University of Arizona.
2022 Invited talk, “Science with the VLA Sky Survey” (remote).
2021 Physics Colloquium, Cornell University.
2021 Invited talk, “40 years of the Very Large Array” (remote).
2020 Physics Colloquium, Indian Institute of Technology, Hyderabad (remote).
2020 Invited Lecture — Talks at Google, Mountain View, CA.
2020 Astronomy Lunch Talk, Caltech, Pasadena, CA.
2019 Astronomy Colloquium, Cornell University, Ithaca, NY.
2019 Invited Lecture, California Academy of Sciences, Morrison Planetarium, San Francisco, CA.
2019 Astronomy Lunch Talk, University of California, Berkeley, CA.
2019 Astronomy Colloquium, Lafayette College, Easton, PA.
2018 Invited talk, “Fast Radio Bursts”, Weizmann Institute, Israel.
2018 Astronomy Colloquium, Rochester Institute of Technology and University of Rochester, NY.
2018 Invited review, IAU Division B, IAU General Assembly, Vienna, Austria.
2018 Astronomy Colloquium, CIERA, Northwestern University, Chicago, IL.
2017 Astronomy Colloquium, Jet Propulsion Laboratory, Pasadena, CA.
2017 Keynote Speaker, NRAO Jansky Postdoctoral Symposium, Charlottesville, VA.
2017 229th Meeting of the American Astronomical Society, Talk and Press Conference.
2016 Invited talk, “GR21: 21st Intl. Conf. on General Relativity and Gravitation”, New York, NY.
2013 Invited talk, “Radio Astronomy in the LSST Era”, Charlottesville, VA.
2012 Invited review, “Distances to Neutron Stars”, IAU Symposium 289, Beijing, China.
2011 Astronomy Colloquium, Pennsylvania State University.
2011 Invited talk, “Radio Astronomy and the ISM”, Durango, CO.
2011 Invited talk, “Fab Five Fest”, Arecibo, PR.
2010 Astronomy Colloquium, University of Vermont.
2009 Astronomy Colloquium, Cornell University.
2009 Astronomy Colloquium, Mt. Stromlo Observatory, The Australian National University.
2008 Astronomy Colloquium, CSIRO Australia Telescope National Facility.
2007 Invited Review, “Neutron Star Astrometry”, IAU Symposium 248, Shanghai, China.
2007 Physics Colloquium, The University of Sydney, Australia.
2007 Astronomy Colloquium, Australia Telescope National Facility, Sydney, Australia.
2006 27th Texas Symposium on Relativistic Astrophysics, Melbourne, Australia.
2006 36th COSPAR Scientific Assembly, Beijing, China.
2006 Astronomy Colloquium, Northwestern University, Chicago, IL.
2005 Astronomy Seminar, Rice University, Houston, TX.
2005 “A Life with Stars”, Amsterdam, the Netherlands.
2005 Radio & Geo-astronomy Seminar, Harvard-Smithsonian Center for Astrophysics.
2005 Astronomy Lunch, Massachusetts Institute of Technology.
2005 Jansky Fellows Symposium, NRAO, Charlottesville, VA.
2004 35th COSPAR Scientific Assembly, Paris, France.
2004 “X-Ray and Radio Connections”, Santa Fe, New Mexico.
2003 Astronomy Colloquium, NRAO, Green Bank, WV.
2003 Astronomy Colloquium, NRAO, Socorro, NM.
2002 NS/SNR Seminar, Harvard-Smithsonian Center for Astrophysics.

- 2002 Astronomy Colloquium, Cornell University.
- 2002 “Radio Pulsars: Crete 2002”, Greece.
- 2002 TAPiR Group Seminar, California Institute of Technology.
- 2002 Astronomy Colloquium, NAIC, Arecibo, PR.
- 2001 Radio Astronomy Seminar, University of California, Berkeley.
- 2001 Astrophysics Seminar, Raman Research Institute, Bangalore, India.
- 2001 Astronomy Seminar, National Center for Radio Astronomy, Pune, India.
- 2001 URSI Meeting, University of Colorado, Boulder.
- 1999 Gravity Group Seminar, Princeton University.